The extraction of Americium with ....

decreases on increasing the concentration of HNO_3. The authors also calculated the equivalents of salting-out of a number of nitrates and found that the degree of extraction of Am increases on raising the ion-potential of the cation and the coefficients of activity of Am we well as that of the salting-out agent. Investigations on the mechanism of distribution of Am indicate that complexes of the type $Am(NO_3)_3 \cdot n(TBP.m\ HNO_3)$ are formed in the organic phase during extraction from very acidic solutions ($HNO_3 > 8M$) and that no stable complexes of Am are formed with HNO_3 in aqueous solutions. At high concentrations of the nitrate it was observed that the curves of the coefficients of activity are approximately parallel and are only slightly affected by J (J = ionic strength) of the solution. Average values of the equivalents of salting-out of nitrate of monovalent cations in the relation to 1M $LiNO_3$ and coefficients of activity of Am in the salting-out agent when J = 4 are given, see Table 5. It can be seen that the salting-out effect is greater the higher the coefficient of activity of Am and of the salting-out agent, which

The extraction of Americium with ...

is in agreement with the conclusions by I.L. Jenkins and H.A.C. McKay (Ref.11: Trans. Farad. Soc., Vol.50, 2, 107 (1954)).

There are 5 figures, 5 tables and 11 references: 7 Soviet and 4 English. The English language references read as follows:

Ref.3: H.A.C. McKay, I.V. Healy. Progress in Nuclear Chemistry, Vol.2, 554 (1948).
Ref.4: D.F. Peppard, W.I. Driscoll. J. Inorg. Nucl. Chem., Vol.4, 5/6, 326 (1957).
Ref.5: K.A. Walsh. Nucl. Sci. Abstr., Vol.12, 2, 1885 (1958).
Ref.11: I.L. Jenkins, H.A.C. McKay, Trans. Farad. Soc., Vol.50, 2, 107 (1954).

SUBMITTED: September 2, 1960

Card 3/4

E3313
S/186/62/004/005/005/009
E075/E135

AUTHORS: Zemlyanukhin, V.I., Savoskina, G.P., and Pushlenkov, M.F.

TITLE: Investigation of the complex formation of americium with neutral phosphoroorganic compounds. I.

PERIODICAL: Radiokhimiya, v.4, no.5, 1962, 570-575

TEXT: The authors investigated the extraction of Am with tri-n-butylphosphate (TBP), di-n-butyl ester of n-butylphosphorous acid (DBEBP), n-butyl ester of di-n-butyl phosphorous acid (BEDBP) and tri-n-butylphosphine oxide (TBPO). This was done in view of the lack of data in the literature on the extraction of trivalent elements with neutral p compounds, with the exception of tributyl and trioctylphosphates (TBP and TOP). Am was used in quantities below 0.1 mg/litre dissolved in 5M $NaNO_3$. Kerosene was used as diluent for the extractants. The procedure used was described previously (V.I. Zemlyanukhin and G.P. Savoskina, Radiokhimiya, v.3, no.4, 1961, 411). The extraction of Am increases when TBP is replaced by TBPO. When the concentration of Am increases is above 0.01 M a third phase is formed. The distribution coefficients (α_{Am}) increase rapidly with the concentration of HNO_3

Card 1/2

Investigat

and re...

S/186/62/004/...

S/186/62/004/006/003/009
E075/E433

AUTHORS: Zemlyanukhin, V.I., Savoskina, G.P., Pushlenkov, M.F.

TITLE: A study of the formation of complex compounds of americium with diisoamyl ester of methylphosphinic acid (DAMP)

PERIODICAL: Radiokhimiya, v.4, no.6, 1962, 655-660

TEXT: The results of the experimental extraction of americium with DAMP from nitric, perchloric, hydrochloric, sulphuric and acetic acid solutions are described. The ^{241}Am used contained no more than 2% of admixtures emitting α radiation. It was shown that the formation of complexes of americium with DAMP follows the same relationships as the formation of complexes with tributylphosphate. Americium is comparatively well extractable with DAMP from nitric and perchlorate solutions and weakly extractable from hydrochloric, sulphuric and acetic solutions. From nitric and perchlorate solutions americium is extracted in the form of $Am(NO_3)_3 \cdot 3DAMP$, the constant for which was calculated (k = 8.3). There are 5 figures and 4 tables.

SUBMITTED: September 9, 1961

Card 1/1

ZEMLYANUKHIN, V.I.; SAVOSKINA, G.P.; PUSHLENKOV, M.F.

Complex formation of americium with acid organophosphrus compounds. Radiokhimiia 5 no. 6:672-673 '63.

(MIRA 17:7)

L 27604-65 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4 IJP(c) JD/JG/RM

ACCESSION NR: AP5001643 S/0186/64/006/006/0694/0701

28
22B

AUTHOR: Zemlyanukhin, V. I.; Savoskina, G. P.; Pushlenkov, M. F.

TITLE: Complexing of americium with neutral organophosphorus compounds. Part 2

SOURCE: Radiokhimiya, v. 6, no. 6, 1964, 694-701

TOPIC TAGS: americium extraction, americium complex, organophosphorus compound, alkyl phosphate

ABSTRACT: The authors studied the extraction of americium from nitric acid solutions, and investigated the influence of both the diluent and the chain length of radicals in the extracting agents. The extraction of americium from 1 M HNO_3 solutions was found to increase in the series TBP < DBEBP<BEDBP<TBPT. The extraction of nitric acid also increases in the same order, but to a much lesser extent. As the chain length of the aliphatic radicals increases in the phosphate extracting agents, the electronegativity of the P=O group rises, causing steric hindrance, and hence the conditions for complexing become less favorable. The effective constant of complex formation by americium and HNO_3 with neutral organophosphorus compounds depends on the nature of the diluent. The effective complexing constant of americium (K_{Am}) is higher the more dilute the extracting agent; the

Card 1/2

L 27604-65

ACCESSION NR: AP5001643

opposite is true in the case of K_{HNO3}. Orig. art. has: 8 figures and 7 tables.

ASSOCIATION: none

SUBMITTED: 12Dec63 ENCL: 00 SUB CODE: IC

NO REF SOV: 004 OTHER: 000

Card 2/2

L 55077-65 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4 IJP(c) JD/RM

ACCESSION NR: AP5018000 UR/0186/64/006/006/0714/0724

20

B

AUTHOR: Zemlyanukhin, V. I.; Savoskina, G. P.; Pushlenkov, M. F.

TITLE: Complex formation of nitrates of the transuranium elements with neutral organophosphorous compounds

SOURCE: Radiokhimiya, v. 6, no. 6, 1964, 714-724

TOPIC TAGS: nitrate, organic phosphorus compound, transuranium element, transuranium compound

Abstract: The complex formation of the nitrates of U (IV), Np (VI), Pu (VI), and Pu (IV) with: tri-n-butyl phosphate (TBP), di-n-butyl ester of n-butylphosphinic acid (DBEBP), and the n-butyl ester of di-n-butylphosphinic acid (BEDBP), was studied in 100% extraction reagents, to exclude the influence of solvents. The distribution curves of the nitrates were obtained for the series of neutral organophosphorous compounds within the interval 0.1-18 M HNO_3. The complexation constants of $UO_2(NO_3)_2 \cdot 2T$, $NpO_2(NO_3)_2 \cdot 2T$, $PuO_2(NO_3)_2 \cdot 2T$, and $Pu(NO_3) \cdot 2T$ were calculated and increased in the series TBP < DBEBP < BEDBP. It was concluded that the bond energy increases in proportion to the number of ester radicals replaced by alkyls and the number of molecules of the extraction reagent added to the metal

Card 1/2

L 55077-65

ACCESSION NR: AP5018000

nitrate. At high acidities, when the HNO_3 content in the organic phase becomes equimolar with respect to the organophosphorus compound, the mechanism of the extraction changes. An analogy was drawn between the extraction behavior of the investigated nitrates for organophosphorus compounds and that for simple oxygen-containing compounds (ketones, ethers) and tertiary amines at high acidity: for all three classes, the organic substance, bound to nitric acid, acts as the extraction reagent. The average activity coefficients of the nitrates of U (VI), Np (VI), Pu (VI), and Pu (IV) in aqueous solutions were calculated as a function of the HNO_3 concentration within the range 0.1-5 M HNO_3.

Orig. art. has 19 formulas, 10 graphs, and 6 tables.

ASSOCIATION: none

SUBMITTED: 15Mar63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 021 OTHER: 007 JPRS

Card 2/2 MB

KOSTYUK, P.G. [Kostiuk, P.H.]; SAVOS'KINA, L.A. [Savos'kina, L.O.]

Effect of a dorsal root section on synaptic conduction in the spinal cord. Fiziol.zhur. [Ukr.] 5 no.6:719-727 N-D '59. (MIRA 13:4)

1. Institut fiziologii im. A.A. Bogomol'tsa Akademii nauk USSR, laboratoriya obshchey fiziologii.
(SPINAL CORD)

SAVOSTINA, L.A. [Savostina, L.O.]

Effect of intra-arterial injection of potassium chloride on mono- and polysynaptic reactions of the spinal cord. Fiziol. zhur. [Ukr.] 9 no.6:723-730 N-D '63. (MIRA 17:8)

1. Laboratoriya obshchey fiziologii Instituta fiziologii im. Bogomol'tsa AN UkrSSR, Kiyev.

[illegible], P.M. [Arstiuk, P.M.]; SAVOS'KINA, L.A. [Savos'kina, L.O.]

Functional changes in degenerating central synaptic endings. Fizicl. zhur. [ukr.] 8 no.5:581-592 S-O '62. (MIRA 17:11)

1. Laboratory of General Physiology of the A.A.Bogomol'tsa Institute of Physiology of the Ukrainian S.S.R., Kiev.

BAN'KO, N.V.; SAVOSKINA, L.S.

Mining and metallurgy at the Exhibition of Progressive Practices in the National Economy of the Ukrainian S.S.R. Met. i gornorud. prom. no.4:85-86 Jl-Ag '64. (MIRA 18:7)

MALINOVSKIY, V.G.; [illegible]

Seminar on improving the technology of steel production in oxygen-blown converters. Metal. gornorud. prom. no.6:81-82 N-D '63. (MIRA 18:1)

SAVOSKINA, L.S.; KIRIO, I.V.

Topical exhibition "New types of pipe and their production by modern methods". Met. i gornorud. prom. no.2:86-87 Mr-Ap '65. (MIRA 18:5)

MATLAKHOV, L.I.; SAVOSKINA, L.Ye.

Seminar of pipe industry workers. Met. i gornorud. prom. no.1:77 Ja-F '64. (MIRA 17:10)

L 12687-63 EWP(j)/EWP(q)/EWT(m)/BDS AFFTC/ASD Pc-4 RM/JD
ACCESSION NR: AP3001598 S/0138/63/000/005/0049/0051

AUTHOR: Korchagin, Yu. M.; Savos'kina, V. P.; Tarasova, Ye. S.

TITLE: A new phenol adsorption method for determining the adsorption surface of carbon black

SOURCE: Kauchuk i rezina, no. 5, 1963, 49-51

TOPIC TAGS: carbon black, adsorption, adsorption surface, roughness, phenol adsorption

ABSTRACT: In view of the coarseness of furnace carbon black and its unsatisfactory performance as reinforcing filler in tires, it is important to know the exact coefficient of coarseness (the ratio of its adsorption surface to the geometrical surface). The authors present a simple new test for the determination of the adsorption surface of furnace carbon black PM-70. This test was recommended by the laboratory of the Scientific Research Institute of the Tire Industry, which adopted it at their carbon black plant after a thorough check. The method is based on the determination of the amount of phenol adsorbed by a weighed sample of carbon black from an aqueous phenol solution

Card 1/2

L 12687-63
ASSOCIATION NR: AP3001598

of known concentration, measured by interferometer. The authors added another simplification to the procedure of determining the true adsorption surface of furnace carbon black by replacing the tedious heating of 700C in a nitrogen current by an experimentally established coefficient which permits the calculation of the degassed surface of carbon black from its original one. Orig. art. has: 1 chart and 2 tables.

ASSOCIATION: Barnaul'skiy sazhevy*y zavod (Barnaul Carbon Black Plant)

SUBMITTED: 00 DATE ACQ: 08Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 000 OTHER: 000

Card 2/2

AUTHORS: Makarova, G. P., Savos'ko, V. K., Candidates of Historical Sciences. 30-8-21/37

TITLE: The October Revolution and the Victory of Socialism in Central Asia and Kazakhstan (Oktyabr'skaya Revolyutsiya i pobeda sotsializma v Sredney Azii i Kazakhstane).

PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol. 27, Nr 8, pp. 91-94 (USSR)

ABSTRACT: This is a report concerning a conference of the Academies of Central Asia which took place at Alma Ata from May 7 - May 11 and was convened at the initiative of the AN USSR. The conference was attended by a number of scientists of the Russian federation and representatives of numerous institutions as guests. The topic discussed was "The Victory of Socialism in Central Asia". Lectures were delivered by representatives of the Kazakhstan, Tadzhikistan, Uzbekistan, Turkmen and Kirgizian Union Republics. Interesting and vivid debates followed. A.V.Pyaskovskiy spoke about "The Idealization and Unnatural Representation of Events of the Revolution". He spoke in favor of sticking to the truth when telling of the events of past history and criticised the methods hitherto adopted by historians. S. B. Baishev spoke about the rules governing the development of socialism and about

Card 1/2

The October Revolution and the Victory of Socialism in Central Asia and Kazakhstan. 30-8-21/37

its particular features in the Soviet Republics of Central Asia. Several speakers dealt with the successful emancipation od women.

AVAILABLE: Library of Congress

Card 2/2

SAPARGALIYEV, G.S., kand. yurid.nauk;PAL'GOV,N.N., akad.; BOGATYREV, A.S.; AFANAS'YEV, A.V., prof.; BYKOV, B.A.; SHAKHMATOV, V.F., kand. istor. nauk; POKROVSKIY, S.N., akad.; SAVOS'KO, V.K., kand. istor. nauk; NUSUPBEKOV, A.N., kand. istor. nauk; BAISHEV, S.B., akad.; GOROKHVODATSKIY, I.S., kand. istor. nauk; AKHMETOV, A., kand. istor. nauk; RAKHIMOV, A., kand. istor. nauk; PIVEN', N.F.; CHULANOV, G.Ch., doktor ekonom. nauk; BOROVSKIY, V.A., kand. ekonom. nauk; SYDYKOV, A.S., kand. pedagog. nauk; ZHANGEL'DIN, T., kand. filos. nauk; KARASAYEV, L.K.; KANAPIN, A.K., kand. istor. nauk; BELENOV, M.D., kand. ekonom. nauk; KARYNBAYEV, S.R., kand. med. nauk; AKHMETOV, K.A.,; SMIRNOVA, N.S., doktor filolog.nauk; SIL'CHENKO, M.S., doktor filolog. nauk; YERZAKOVICH, B.G., kand. iskusstvovedcheskikh nauk; RYBAKOVA, N.; MUKHTAROV, A.I.; BOGATENKOVA, L.I.; KUNDAKBAYEV, B.; SIRANOV, K.S.; SHVYDKO, Z.A., red.; MAMTSOVA, L.B., red.; ZLOBIN, M.V., tekhn. red.

[The Soviet Kazakh Socialist Republic] Kazakhskaia Sovetskaia Sotsialisticheskaia Respublika. Alma-Ata, Kazakhskoe gos. izd-vo, 1960. 477 p. (MIRA 14:6)

1. Akademiya nauk Kaz.SSR (for Pal'gov, Pokrovskiy, Baishev)
2. Chlen-korrespondent Akademii nauk KazSSR (for Bykov, Smirnova, Sil'chenko)

(Kazakhstan)

MIKHAYLOV, Fedor Kuz'mich; SHAMSHATOV, Ibragim Shamshatovich; SAVOS'KO, V.K., kand. ist. nauk, otv. red.; LEVIN, M.L., red.

[Popular movement for the reclamation of the virgin lands in Kazakhstan, 1953-1960] Narodnoe dvizhenie za osvoenie tselinnykh zemel' v Kazakhstane, (1953-1960 gody). Alma-Ata, Izd-vo AN Kaz.SSR, 1964. 359 p. (MIRA 17:5)

SAVOSTA, V.S. (Novozybkov, Bryanskoy oblasti)

Forecast for stripe rust. Zashch. rast. ot vred. i bol. 9 no.8:41 '64. (MIRA 17:12)

SAVOSTA, V.S. (Novozybkov)

Factors determining the development of yellow rust of wheat (Puccinia glumarum) in the Kirghiz S.S.R. Bot.zhur. 49 no.6:885-887 Je '64. (MIRA 17:10)

YEMELIN, K.I., inzh.; SAVOSTENKO, N.I., inzh.

Making and assembling tubular supports of radio relay systems and television stations. Mont.i spets.rab.v stroi. 22 no.8:14-18 Ag '60. (MIRA 13:8)

1. Glavstal'konstruktsiya, trest Stal'montazh.
(Television--Antennas) (Radio--Antennas)

PETROV, K.A.; BLIZNYUK, N.K.; SAVOSTENOK, V.A.

Reactions of sulfenamides with compounds of trivalent phosphorus.
Zhur. ob. khim. 31 no.4:1361-1366 Ap '61. (MIRA 14:4)
(Sulfenamides)
(Phosphorus organic compounds)

PETROV, K.A., ELIZNYUK, N.K., SAVOSTENOK, V.A.

"Reactions of sulfenamides with compounds of trivalent phosphorus."

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. Ye. Arbuzov, Ed. Publ. by Kazan Affil. Acad. of Sci. USSR, Moscow 1966. 392 pp.

Collection of complete papers presented at the 1963 Kazan Conference on Chemistry of Organophosphorus Compounds.

SAVOSTEYEV, F. A.

Calculi

Case of enterolith. Sov. med. 17, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

SAVOSTEYEV, F.A.

Clinical aspects of acute gastric volvulus. Khirurgiia no.7: 62-63 Jl '55. (MLRA 8:12)

1. Iz Stolbtsovskoy rayonnoy bol'nitsy BSSR (Glavnyy vrach Z.V.TSentsevitskiy)
(STOMACH--DISEASES)

SAVOSTEYEV, F.A., vrach

History of the study of the prevention of farm accidents. Sov. zdrav. 17 no.12:31-35 D '58. (MIRA 12:2)

1. Iz Stolbtsovskoy rayonnoy bol'nitsy Minskoy oblasti Belorusskoy SSR.

(ACCIDENTS, prev. & control in rural cond., hist. (Rus))
(RURAL CONDITIONS accid. prev., hist. (Rus))
(ACCIDENTS, INDUSTRIAL, prev. & control, farm accid., in Russia (Rus))

SAVOSTEYEV, F. A., Candidate Med Sci (diss) -- "Agricultural traumatism in Stolbtsovskiy Rayon between 1946 and1955". Minsk, 1959. 15 pp (Minsk State Med Inst), 150 copies (KL, No 22, 1959, 122)

25(3)

AUTHOR: Savostikova, N.V., Candidate of Economic Sciences

SOV/117-59-6-26/33

TITLE: Inter-Shop Transfer of Semi-Finished Production

PERIODICAL: Mashinostroitel', 1959, Nr 6, pp 41-42 (USSR)

ABSTRACT: The author criticizes the practice of using delivery and acceptance cards in the transfer of parts and subassemblies from shop to shop within a plant. This practice has resulted in the use of 7 million such cards a year at the Gor'kovskiy avtomobil'nyy zavod, or the GAZ (Gor'kiy Automobile Plant). From 1955 on, the Stalingrad Tractor Plant (and since 1956 the GAZ) has started using a new transfer system, without the cards. In the new system, every plant shop gets its quota of parts to be delivered to other shops, and in the end the production of every shop can be seen by the number of ready automobiles or tractors turned out by the assembly shop. The GAZ uses a new quality control system preventing, or at least minimizing, delivery of faulty parts to the

Card 1/2

Inter-Shop Transfer of Semi-Finished Production

assembly shop. The Taganrogskiy kombaynovyy zavod (Taganrog Harvester Combine Plant) now uses a system of quality control whereby the cost of rejects is deducted from the pay of the responsible worker. The mechanical shops are now watching for timely delivery of parts to prevent stoppage of the production lines due to lack of parts, and the stocks of parts and subassemblies are kept in careful order. The author stresses the beneficial effect of the new, document-less, part transfer system.

RAZUMOV, Nikolay Alekseyevich; SAVOSTIKOVA, Nina Vasil'yevna; SMIRNOV, Ye.I., red.; GERASIMOVA, Ye.S., tekhn. red.

[Analysis of carrying out the production program in assortment] Analiz vypolneniia proizvodstvennoi programmy po assortimentu. Moskva, Ekonomizdat, 1962. 76 p. (MIRA 15:9)
(Moscow--Industrial management)
(Moscow--Auditing and inspection)

SAVOSTIN, A.

The number of links increased instead of diminishing.
Sov.torg. no.6:44-45 Je '58. (MIRA 13:2)

1. Predsedatel' Sergiyevskogo raypotrebsoyuza Kuybyshevskoy oblasti.
(Wholesale trade)

SAVOSTIN, A.F.

1(2)(3)(4);26(1) PHASE I BOOK EXPLOITATION SOV/3376

Silovyye ustanovki vertoletov; sbornik statey (Helicopter Power Units; collection of articles) Moscow, Oborongiz, 1959. 184 p. Errata slip inserted. 2,400 copies printed.

Ed.: M. M. Maslennikov, Professor; Managing Ed.: A. S. Zaymovskaya; Ed. of Publishing House: I. A. Suvorova; Tech. Ed.: V. P. Rozhin.

PURPOSE: This book is intended for specialists who design, manufacture and operate helicopters, and may also be used by instructors and students of schools of higher technical education.

COVERAGE: This book contains 7 articles which discuss problems connected with the application of gas turbines for driving helicopter rotors and with jet driven rotors. The author is particularly concerned with increasing the power, economy, useful load, and flight distance of helicopters. There are references, both Soviet and non-Soviet, in footnotes throughout the book.

Card 1/4

TABLE OF CONTENTS:

Helicopter Power Units (Cont.)

The use of low-speed turbines for the direct drive of rotor blades is possible, but results in a lower efficiency coefficient.

4. Gurevich, D. U. Experimental Investigation of Diffusor Exhaust Conduits in Turboprop Helicopters 59
The author gives methods of determining hydraulic characteristics of exhaust conduits of turboprop engines, describes their elements, and gives data on their hydraulic resistance and their installation. Some data are also given on the use of the kinetic energy of turboprop engine exhaust gases and on the prospect of future development.

5. Khasileva, D. P. Method of Analysis of Characteristics of Free Turbine Turbo-prop Engines for Helicopters. 114
The analysis described differs from other methods in the consideration of exhaust conduit characteristics and in more precise evaluation of the influence of turbine rotation on

engine characteristics. The method is comparatively simple.

6. Bekhli, Yu. G. and I. I. Mashkevich. Evaluation of the Possibility of Using Exhaust Gases in the Compressor Reactive Drive of Helicopter Rotor Blades (Gas-air mixture system) 147
This article is based on French and English experiments in 1952 and 1955 on the use of turbine gases to drive helicopter rotor blades. (Doran's DH-011 and Napier's Oryx Gas Generator)

7. Kaganovich, B. P. Some Problems of Helicopter Rotor Blades Driven by Turbojet Engines 167
The author describes the operating conditions of turbojet engines mounted on helicopter rotor blades and suggests some solutions of basic technical problems connected with this propulsion method.

AVAILABLE: Library of Congress (TL716.M4)

AC/mmh
4-13-60

Card 4/4

SAVOSTIN, A. I.

PHASE I BOOK EXPLOITATION SOV/4438

Vzaimozamenyayemost' i tekhnicheskiye izmereniya v mashinostroyenii; mezhvuzovskiy sbornik, no. 2 (Interchangeability and Engineering Measurements in Machinery Manufacture; University Collection, No. 2) Moscow, Mashgiz, 1960. 542 p. Errata slip inserted. 5,000 copies printed.

Ed.: A.I. Yakushev, Doctor of Technical Sciences, Professor; Editorial Council: A.I. Yakushev (Chairman); B.A. Tayts, Doctor of Technical Sciences, Professor; Ye. I. Volodin, Docent; N.N. Ganchev, Docent; P.N. Goberman, Docent; and O. Ya. Yegor'yev (Scientific Secretary), Engineer; Reviewer: M. Ye. Yegorov, Doctor of Technical Sciences, Professor; Eds.: B.A. Tayts; V.P. Korotkov, Candidate of Technical Sciences, Docent; L.N. Vorontsov, Candidate of Technical Sciences; Managing Ed. for Literature on Machine and Instrument Construction (Mashgiz): N.V. Pokrovskiy, Engineer; Ed. of Publishing House: G.F. Kochetova; Tech. Ed.: T.F. Sokolova.

PURPOSE: This collection of articles is intended for scientific and technical personnel dealing with problems of interchangeability and engineering measurements in the machine and instrument industries.

ZHURAVLEV, Aleksey Nikitovich; SAVOSTIN, A.I., nauchn. red.; KONCHA, F.F., red.; NESMYSLOVA, L.M., tekhn. red.

[Tolerances and technical measurements] Dopuski i tekhnicheskie izmereniia. Moskva, Proftekhizdat, 1963. 171 p. (MIRA 17:2)

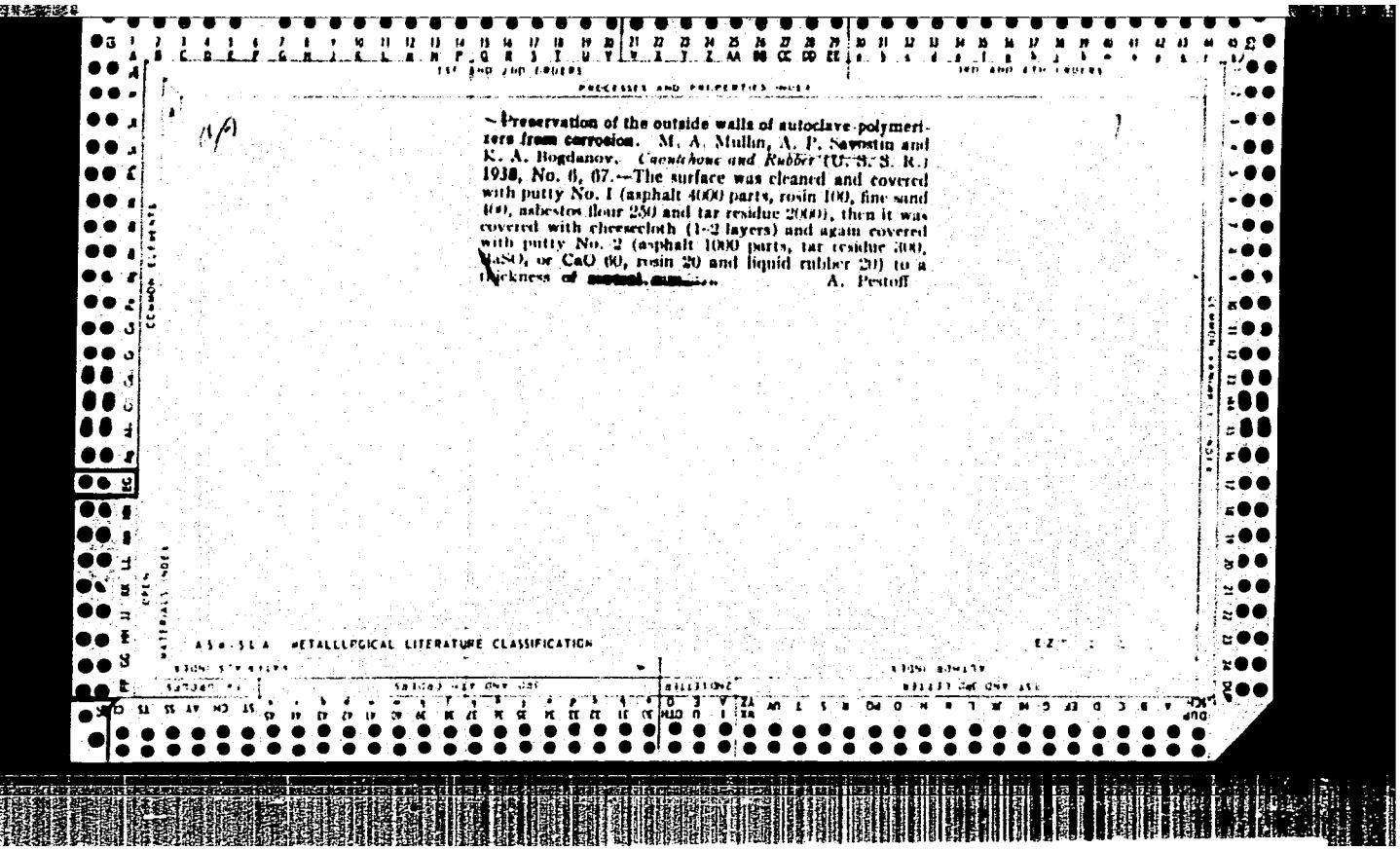
ANOSOV, V.I.; SAVOSTIN, A.M.; PINES, V.G.; MILYUTKINA, V.P.; MIROPOL'SKAYA, M.A.; FEDOTOVA, N.I.; SAMOKHVALOV, G.I.

Preparation of γ-,γ-dimethylallyl alcohol and isopropenylethyl alcohol from the product resulting from the condensation of isobutylene. Zhur. ob. khim. 31 no.4:1154-1157 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Butenol) (Pentenol)

SAVOSTIN, A.N.; BIRYUKOV, A.A., nauchnyy redaktor; GLADYSHEVA, S.A., redaktor; DVORNIKOVA, N.I., tekhnicheskiy redaktor

[A question of the employees' honor] Delo chesti kollektiva. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1953. 41 p. (MLRA 7:10)
(Building fittings)



—**Preservation of the outside walls of autoclave-polymerizers from corrosion.** M. A. Mullin, A. P. Sawostin and K. A. Bogdanov. *Caoutchouc and Rubber* (U.S.S.R.) **1938**, No. 6, 67.—The surface was cleaned and covered with putty No. 1 (asphalt 4000 parts, rosin 100, fine sand 60, asbestos flour 250 and tar residue 2000), then it was covered with cheesecloth (1-2 layers) and again covered with putty No. 2 (asphalt 1000 parts, tar residue 300, $BaSO_4$ or CaO 60, rosin 20 and liquid rubber 20) to a thickness of [redacted]. A. Pestoff

SAVOSTIN, A. P.

Distr: 4E4j/4E2c(j)/

Preparation of low-molecular-weight polyisobutylene (P-20). M. A. Mullin, A. P. Savostin, and V. I. Anosov (Efremov Synthetic Rubber Plant, Yaroslavl). *Kauchuk i Rezina* 16, 8, 27–30(1957).—Liquid C_2H_4 added to 95–6% isobutylene (I) at −100° in an ampul, liquid C_2H_4 mixed with 1% $AlCl_3$ or BF_3 in EtCl in another, both ampuls emptied at once into a beaker, where I polymerizes for 10–30 sec. in boiling C_2H_4, *p-tert*-butylphenol sulfide (1–2%) on polymer) added to prevent depolymerization, the polymer dried at 105°, gives polyisobutylene (II) with a mol. wt. of 120,000–250,000 (by viscosity). However, the optimum conditions for a mol. wt. of 15,000–25,000 in a continuous process in evapg. C_2H_4 are: an I:C_2H_4 ratio of 1:2–2.5; 1.2-1.4% diisobutylene (on I) to regulate the mol. wt.; 0.3–0.5% BF_3 as catalyst; and 0.02–0.03% alc. (as MeOH) or 0.001% CCl_3CO_2H as co-catalyst. MeOH 0.025 plus *iso*-BuOH 0.005% reduces reaction time from 110 to 13 sec. and raises yield from 75 to 92%. Hexene (which retards the reaction) and the diisobutylene fraction (b. 100–125°) also act as regulators; Dibenzoyl peroxide (0.001%) reduces the mol. wt. from 198,500 to 18,900, but makes the reaction incomplete and much slower. Malcolm Anderson

5(2)

AUTHORS: Savostin,A.P. and Alimarin,I.P. SOV/55-58-2-29/35

TITLE: Separation of Small Quantities of Tantalum from Titanium With the Aid of Pyrogallic Acid (Otdeleniye malykh kolichestv tantala ot titana pirogallovoy kislotoy)

PERIODICAL: Vestnik Moskovskogo Universiteta.Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958,Nr 2,pp 211-216 (USSR)

ABSTRACT: The authors propose to precipitate small quantities of tantalum under existing 100- and 1000-fold quantity of titanium by pyrogallic acid in presence of a ftorion. The radiometric control showed that by threefold repetition of the precipitation on an average 70-80% of the tantalum can be separated. In the residual precipitate the ratio Ta : Ti was on an average 1 : 0,2 - 0,4 .
There are 2 figures, 3 tables, and 2 references, 1 of which is Soviet, and 1 English.

ASSOCIATION: Kafedra analiticheskoy khimii (Chair of Analytic Chemistry)

SUBMITTED: June 8, 1957

Card 1/1

5(2)
AUTHORS: Savostin, A. P., Alimarin, I. P., SOV/153-58-4-5/22

TITLE: On the Problem of the **Precipitation Process** of Small Tantalum Quantities According to the Method of Co-Precipitation (K voprosu o mekhanizme vydeleniya malykh kolichestv tantala metodom soosazhdeniya)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 29-34 (USSR)

ABSTRACT: Since tantalum and titanium have similar chemical properties (Refs 1, 2), microquantities of tantalum can be co-precipitated from the solution with titanium selenite. As is known, selenic acid precipitates white precipitates of selenites of Ti, Ta, Nb, Cr, V (III), Pb, Ag and Hg from mineral acid solutions, whereas no precipitates are formed by Al, Cu, Zn, Mg, Co, W, M and V(V) (Ref 3). Thus Ta, Nb and Ti can be separated by selenic acid from a whole group of elements. The authors tried hard to remove most of the carrier and to obtain tantalum in a more or less pure state. In tartaric acids containing HCl, Ta and Ni are quantitatively precipitated by selenic acid (Ref 4). It is necessary to precipitate twice, because titanium is not precipitated by selenic acid under these conditions, and is

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co-precipitated in the presence of Ta and Nb. The authors intended to investigate into the behavior of microquantities of tantalum in the presence of large titanium quantities. A hydrochloric titanium solution and an oxalic tantalum solution containing tantalum-182 were used in the experiments. Table 1 shows data on the influence exerted by the nature of the acid and the acidity upon the separation of tantalum with a precipitation of titanium selenite. As may be seen from it, titanium is better separated from nitric acid solutions and hydrochloric acid solutions (the same acidity given), in spite of almost the same character of precipitation. Thus, selenic acid separates titanium and tantalum insufficiently from highly acid solutions. Solutions of ammonium oxalate, tartaric acid and sodium fluoride were used in the investigation of the influence exercised by complex-forming reagents upon the complete separation of titanium and tantalum. The precipitations were subjected to similar operations as mentioned above, after they had been stored overnight. The results are presented in table 2, from which it may be seen that the authors did not sufficiently succeed in maintaining most of the carrier as an

oxalate or tartrate complex in the solution, with the whole microcomponent to be separated into the precipitate. Better results would be obtained by using sodium fluoride or different quantities of the precipitant (Table 3). Additional experiments were carried out to clarify the problem whether the co-precipitation is of adsorption or isomorphous character. According to the results (Table 4), the authors arrived at the conclusion that the co-precipitation process of tantalum with titanium selenite has no adsorption character. From table 5 it may be seen that approximately an average quantity of the microcomponent is carried along by the precipitate. That carrying along is, under the corresponding conditions, explained by the fact that titanium selenite possesses a certain degree of solubility at increased temperature, which decreases when it is cooled, so that part of the titanium selenite is precipitated into the precipitate carrying along tantalum with it. It results from this that selenic acid makes the separation of tantalum microquantities on the carrier (titanium selenite) possible,

but does not secure the separation of these two elements. There are 6 tables and 4 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov) Kafedra analiticheskoy khimii (Chair of Analytic Chemistry)

SUBMITTED: October 25, 1957

5 (2)

AUTHORS: Savostin, A. P., Alimarin, I. P. SOV/55-58-6-15/31

TITLE: The Separation of Small Quantities of Niobium From Titanium by Means of Pyrogallic Acid (Otdeleniye malykh kolichestv niobiya ot titana pirogallovoy kislotoy)

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 111-119 (USSR)

ABSTRACT: This article is a continuation of a paper which was published in this periodical 1958, Nr 2. The separation of niobium from titanium was attained by leaching out the pyrosulphate alloy of the two oxides by means of an aqueous solution of pyrogallic acid with a small addition of ammonia and sodium fluoride, heating this solution to boiling point, and following neutralization of the basic solution by means of hydrochloric acid. The quantity of the separated titanium was colorimetrically determined from its reaction with H_2O_2 by means of photoelectric colori- and nephelometer FEK-52, and the quantity of niobium by measuring γ-radiation (For these investigations the radioactive isotope Nb^{95} was used). It was

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found that separation depends in a high degree on the large quantity of excess potassium pyrosulphate and sodium fluoride, because SO_4^{2-} keeps titanium dissolved under complex formation, whereas it hardly influences Nb at all. By triple precipitation it was possible to separate 60-70 % of the niobium by means of this method (Table 1). Further, this method of separation was investigated in the presence of other elements (Ta) and at various ratios Ti : Nb (Tables 2-6). With an increase of the Ti-content in the alloy, the excess potassium pyrosulphate (Table 4) had also to be increased correspondingly, but this at the same time led to a complex formation of Nb with H_2SO_4 and thus to the dissolution of the Nb. In further investigations only the concentration of NaF was therefore increased (Table 5). Also investigations were carried out in which other acids were used (HCl) (Table 7), and sodium carbonate was also used instead of the potassium sulfate used in the alloy. The last-mentioned investigations were found to be more favorable for the separation of larger quantities of Ti from smaller quantities of Nb than the method used first,

because by the increase of the quantity of sodium carbonate, the Nb is not dissolved by complex formation in the further course of the separation process. Corresponding data may be found in the last tables (8-14). There are 1 figure, 14 tables, and 6 Soviet references.

ASSOCIATION: Kafedra analiticheskoy khimii (Chair for Analytical Chemistry)

SUBMITTED: September 9, 1957

SAVOSTIN, A. P., Cand of Chem Sci — (diss) "Determination of Small Quantities of Tantalum and Niobium in the Presence of Tintanium By Means of Percipitation and Isotopic Dillution," Moscow, 1959, 8 pp (Moscow State Univ im Lomonosov, Chair of Analytical Chemistry) (KL, 4-60, 115)

MULLIN, M.A.; SAVOSTIN, A.P.; ANOSOV, V.I.; CHEMODANOVA, Ye.S.

Stabilization of mineral oils thickened with low-molecular polyisobutylene. Khim. i tekh.topl. i masel 4 no.1:49-52 Ja '59. (MIRA 12:1)

1. TSentral'naya zavodskaya laboratoriya Yefremovskogo zavoda sinteticheskogo kauchuka.
(Lubrication and lubricants) (Propene) (Depolymerization)

SAVOSTIN, A.P.; ALIMARIN, I.P.

Determination of small amounts of tantalum and niobium in granites with the aid of isotope dilution. Vest.Mosk.un.Ser. 2: Khim. 15 no.1:45-48 '60. (MIRA 13:7)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Isotopes)
(Tantalum--Analysis)
(Niobium--Analysis)

L 12289-63 EWP(j)/EPF(c)/EWT(m)/BDS Pc-4/Pr-4 RM/WW
S/081/63/000/005/046/075 64 63

AUTHOR: Savostin, A. P., Pines, G. D. and Koval'chuk, L. A.

TITLE: Contact conversion of methyl-tert-butyl ether into isobutylene

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 413, abstract 5N8 (Vestn. Tekhn. i ekon. inform. N-i. in-t tekh-ekon issled. Gos. kom-ta Sov. Min. SSSR po khimii, 1962, no. 4, 20 - 21)

TEXT: The catalytic splitting of methyl-tert-butyl ether (I) into $CH_2 = CH(CH_3)_2$ II was investigated in a quartz tube (diam. 27 mm, length 1000 mm), filled with 200 ml of active Al_2O_3 (length of the layer 400 mm, Al_2O_3 previously heated to 400°C for 4 hours) and placed in a tubular electric oven 800 mm long. An industrial mixture was used, containing 93 - 94% I, 2 - 3% CH_3OH and 1 - 2% water. I forms azeotropes with the latter with b.p. 51.6°C (content CH_3OH 15%) and 52.6°C (water content 4%). 15 ml of I are passed through the tube. The liquid products, containing up to 25% CH_3OH, are condensed in a cooler, gathered in a container and cooled by ice. Gaseous products are gathered in a gas meter, are then passed in an Orsa apparatus through containers filled with alkali, 53% H_2SO_4 and Br_2, for determining the CO_2 content, II and butylenes. The effect of temperature of contact in

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L 12289-63 S/081/63/000/005/046/075

Contact conversion of .....

the 175 - 380°C range was studied and the inflow rate of I at 0.65 kg/hour per 1 kg of catalyst (KT) and the inflow rate of I at 0.26 - 1.6 kg/hour at 250°C on the yield of II. KT is periodically regenerated by passing a slow current of air (2 hours at 500°C through it, until CO_2 is not present in the air blown through. The dependence of yield of II on the duration of action of KT at 250°C is discussed and of the rate of inflow of I at 0.56 kg/hour. The optimum conditions were established for conducting the reaction: temperature of contact, 250°C, the inflow rate of I at 0.56 - 0.8 kg/hour; yield of II — 96%; KT is regenerated over a period of 20 - 25 hours. I is contained in by-products, formed in the synthesis of isoprene by the condensation of II with CH_2O. V. Litvinov.

[Abstractor's note: Complete translation]

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S/0032/64/030/009/1045/1053

ACCESSION NR: AP4044892

AUTHOR: Savostin, A. P.

TITLE: The present state of the analytical chemistry of gallium (a review)

SOURCE: Zavodskaya laboratoriya, v. 30, no. 9, 1964, 1045-1053

TOPIC TAGS: gallium

ABSTRACT: The earlier reviews on the analytical chemistry of gallium were presented by T. V. Cherkashina and V. M. Vladimirova (Zavodskaya laboratoriya, XXV, 1307, 1959), and by A. I. Busev and L. M. Skrebkova (Sb. "Metody* opredeleniya i analiza redkikh elementov", Izd. AN SSSR, p. 201, 1961). The presence of gallium can be detected qualitatively by color reactions with a number of organic reagents, 0.06 micrograms gallium being the minimum detectable amount. The present work describes the leading gravimetric procedures and the ways to overcome interferences. In the section on titrimetric techniques a selective indicator for gallium is described. The photometric procedures are discussed at length, covering the colorimetric, fluorometric, and spectrophotometric techniques. A number of these techniques involve extraction of the organogallium complexes by means of organic solvents (the sensitivity of the lumogallion IREA method is 0.005 microgram gallium in 5 ml). The

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ACCESSION NR: AP4044892

electrochemical methods, and in particular the polarographic method, are extensively used in the determination of gallium in various materials, but they usually require a preliminary separation of interfering substances. The determination of gallium by amperometric titration is also reported. In view of the small amounts of gallium in natural compounds, the most effective method for its determination is the spectral technique. Because it is sensitive down to the concentration of 10^{-4}%, it is replacing the slow and laborious chemical method (especially when applied in combination with the so-called "enrichment" procedure). For the detection of its trace quantities, gallium is activated by neutron irradiation, and the activity of Ga^{72} is evaluated by a Geiger counter. The "isotope-dilution" technique, as applied to polymetallic ores, allows the determination of quantities of gallium down to 10^{-5}%.

ASSOCIATION: none

ENCL: 00

SUBMITTED: 00

OTHER: 052

SUB CODE: MM

NO REF SOV: 083

Card 2/2

SAVOSTOV, V.M.

Starting ball slide valve with pneumatic contr... Mash. i neft. obor. no.11:23-25 '63 (MIRA 17:2)

1. Neftepromyslovoye upravleniye "Ishimbaymef't".

2C

L 23872-65 EWT(m)/EPF(n)-2/EPR/EWP(t)/EWP(b) Pe-4/Pu-4 IJP(c) JD/
JG/MLK
ACCESSION NR: AT5002775 S/0000/64/000/000/0172/0175

AUTHOR: Nagorskaya, N. D.; Simanov, Yu. P. (Deceased); Nikolayeva, V. V.; Novoselova, A. V.; Fridlyander, I. N.; Yatsenko, K. P.; Savostin, A. P.

TITLE: Investigation of the interaction of beryllium with rhenium

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya, 2d, Moscow, 1962. Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 172-175

TOPIC TAGS: beryllium, rhenium, beryllium rhenium system, beryllium alloy, rhenium containing alloy, microstructure, hardness

ABSTRACT: The microstructure and hardness of cast, annealed, and quenched Be-Re alloys containing up to 45 wt (3.79 at)% Re have been investigated. The alloys were induction melted from 99.5%-pure Be and 99.95% pure Re. Microstructure examination showed that alloys at the investigated portion of the Be-Re system crystallize according to eutectic type diagrams. In hypoeutectic alloys the grains of Be-base solid solution are contained in a binary eutectic. In the eu-

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L 23872-65

ACCESSION NR: AT5002775

tectic which contains 8.8 wt% (0.45 at%) Re, the γ-phase based on $Be_{20}Re$ compound forms a finely branched network. The primary formations of the γ-phase in hypereutectoid alloys are scattered within the solid solution of Be. In the investigated alloys Be is present in the form of the α-modification and in an f.c.c. γ-phase on a $Be_{20}Re$ base which has a theoretical Re content of 50.78 wt%. The solubility of Re in Be is less than 1.0 wt% at the eutectic temperature, and less than 0.7 wt% at 600C. The cast alloys containing 2—12% Re have a considerably higher hardness than that according to the additivity rule, which is ascribed to the presence of mechanical stresses in the finely branched eutectic crystallized under conditions of rapid cooling. As the amount of the eutectic decreases and the amount of the γ-phase increases, the hardness of the alloys drops, and in alloys containing more than 12% Re it is equal to the mean arithmetic value of the hardnesses of individual phases. Orig. art. has: 2 figures and 1 table. [MS]

ASSOCIATION: none

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SAVOSTIN, A.P.

Contemporary state of the analytical chemistry of gallium (survey). Zav. lab. 30 no.9:1045-1053 '64. (MIRA 18:3)

L 01011-66 EWT(m)/EPF(c)/EWP(j)/T DJ/RM

ACCESSION NR: AP5019983 UR/0065/65/000/008/0019/0024 68
542.61.002.2

AUTHOR: Anosov, V. I.; Dintses, A. I.; Martynova, N. V.; Mullin, M. A.; Nikonorov, Ye. M.; Popova, L. A.; Savostin, A. P.; Chemodanova, Ye. S.

TITLE: Development of a continuous process for production of polyisobutylene with molecular weights of 10,000 and 20,000

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 8, 1965, 19-24

TOPIC TAGS: isobutylene, polymerization, lubricant additive, fuel thickener

ABSTRACT: The objective of the study was to develop a continuous process for production of polyisobutylene with molecular weights of 10,000 (commercial oil additive P-10) and 20,000 (commercial oil additive P-20). These additives are used in manufacturing automotive, aviation, and some special purpose lubricating oils. Isobutylene is polymerized in an inert solvent (isobutane, pentane, and others) using $AlCl_3$ (in ethyl or methyl chloride) as a catalyst. Flow-sheet of the industrial scale polymerization unit is shown in fig. 1 of the Enclosure. The linear velocity of the reacting mixture through the reactor is 3-3.5 m/sec and the heat exchange

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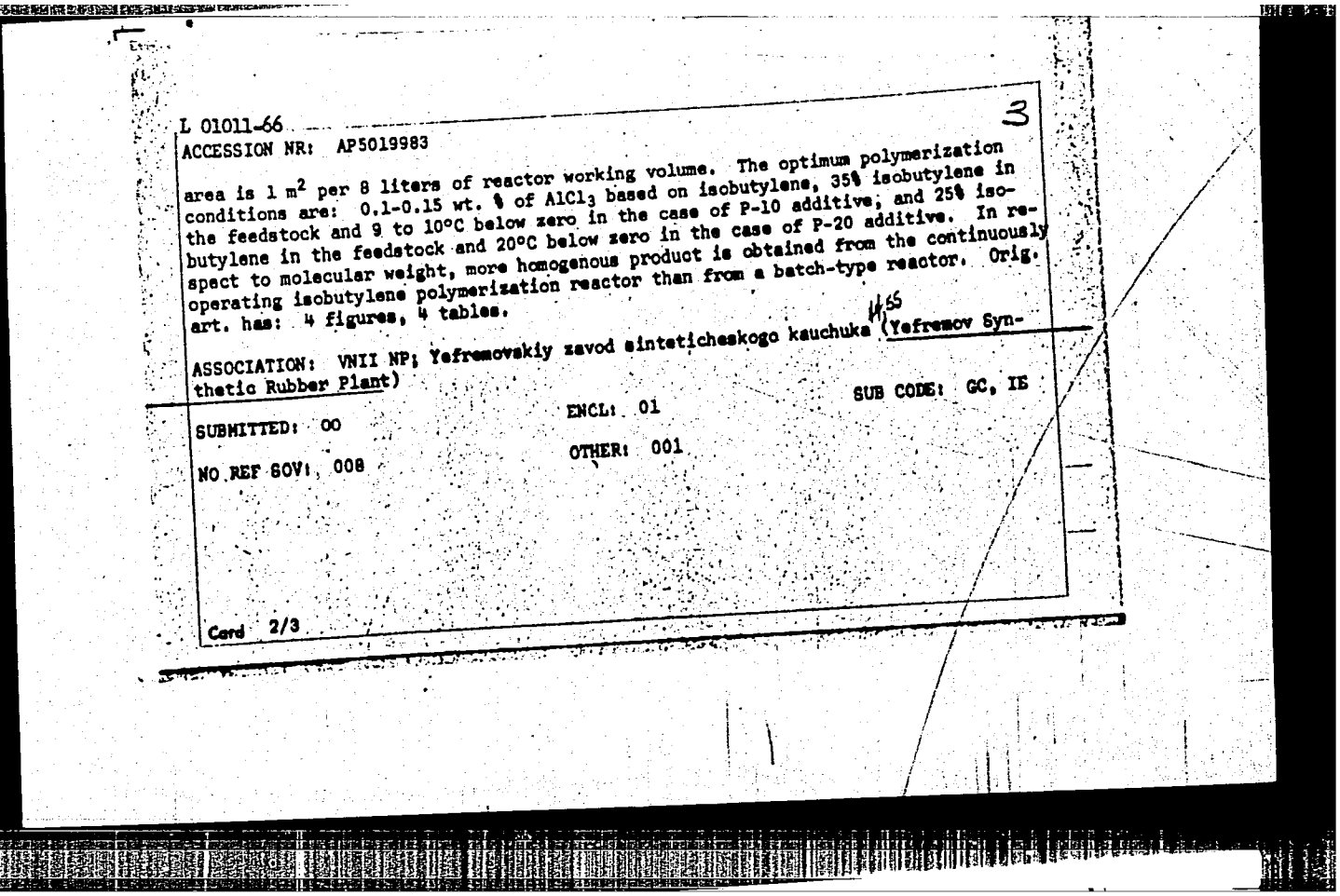

L 01011-66 3

ACCESSION NR: AP5019983

area is 1 m^2 per 8 liters of reactor working volume. The optimum polymerization conditions are: 0.1-0.15 wt. % of $AlCl_3$ based on isobutylene, 35% isobutylene in the feedstock and 9 to 10°C below zero in the case of P-10 additive, and 25% isobutylene in the feedstock and 20°C below zero in the case of P-20 additive. In respect to molecular weight, more homogenous product is obtained from the continuously operating isobutylene polymerization reactor than from a batch-type reactor. Orig. art. has: 4 figures, 4 tables.

ASSOCIATION: VNII NP; Yefremovskiy zavod sinteticheskogo kauchuka (Yefremov Synthetic Rubber Plant) 44,55

SUBMITTED: 00 ENCL: 01 SUB CODE: GC, IE

NO REF SOV: 008 OTHER: 001

Card 2/3

L 01011-66

ACCESSION NR: AP5019983

ENCLOSURE: 01

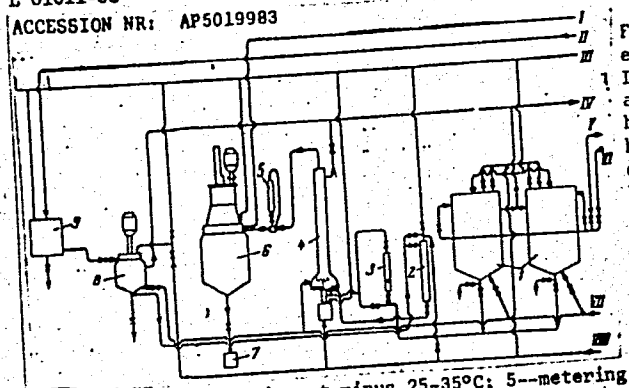

Fig. 1. I--vacuum line; II--ethyl chloride to the unit; III--air line; IV--gaseous ammonia from the unit; V--isobutylene to the unit; VI--isobutane to the unit; VII--liquid ammonia to the unit; VIII--nitrogen from the cylinders; 1--ammonia-cooled reservoirs containing isobutylene-isobutane mixture; 2--metering tank with catalyst wolution; 3--rotameter on the feed line; 4--polymerization reactor, mixing by bubbling nitrogen through the solution at minus 25-35°C; 5--metering tank with ethyl alcohol (for deactivating catalyst present in the product); 6--gas separator (two in a unit) where gases are removed during 1-2 hour heating at 100-120°C under agitation; 7--polyisobutylene product drain; 8--catalyst make-up vessel, ethyl chloride and $AlCl_3$ mixed for 1 hr at 15-20°C; 9--catalyst container.

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MULLIN, M.[illegible] ; KOSTIN, A.P.; CHEMODANOVA, Ye.S.

Development of the continuous method for the production of polyisobutylene with 1000-3000 molecular weights. Khim. i tekh. topl. i masel 10 no.10:23-26 '65. (MIRA 18:10)

1. Yefremovskiy zavod sinteticheskogo kauchuka.

SAVOSTIN, A.P.

Complex formation of gallium with 8-quinolinol. Zhur.neorg.khim. 10 no.11:2565-2567 N '65. (MIRA 18:12)

1. Submitted October 12, 1964.

ANOSOV, V.I.; DINTSES, A.I.; MARTYNOVA, N.V.; MULLIN, M.A.; NIKONOROV, Ye.M.; POPOVA, L.A.; SAVOSTIN, A.P.; CHEMODANOVA, Ye.S.

Development of the continuous method for the preparation of polyisobutylene with 10,000 and 20,000 molecular weights. Khim. i tekh. topl. i masel 10 no.8:19-24 Ag '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva i Yefremovskiy zavod sinteticheskogo kauchuka.

L 17690-65 EWT(m)/EPF(c)/EWG(v)/EPR/EWP(j)/T Pc-4/Pe-5/Pr-4/Ps-4 AFWL/
ASD(m)-3/ASD(f)-2/AS(mp)-2/SSD/ASD(a)-5/RAEM(i)/RAEM(c)/ESD(gs)/ESD(t) RM/WW
ACCESSION NR: AP4049481 S/0020/64/159/002/0303/0305

AUTHORS: Zhurkov, S. N. (Corresponding member AN SSSR); Savostin, A. Ya.; Tomashevskiy, E. Ye.

TITLE: Study of the mechanism of polymer disintegration by the electron paramagnetic resonance method

SOURCE: AN SSSR. Doklady*, v. 159, no. 2, 1964, 303-305

TOPIC TAGS: electron paramagnetic resonance, polymer, radical polymerization, stress analysis/kapron

ABSTRACT: The purpose of the investigation was to trace the occurrence of microradicals during the course of disintegration of a polymer under the influence of uniaxial tensile stresses. Tests have shown that electron paramagnetic resonance can display the destruction of the chemical bonds in stressed highly oriented fibers of polycarpolactame (kapron). The experiments were made at room

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L 17690-65
ACCESSION NR: AP4049481

3

temperature under atmospheric conditions, using kapron samples with and without a stabilizer (di-β-naphtyl-n-phenylenediamine). Samples in the form of bundles of 15 x 10^4 fibers with total cross section area 4 mm^2 were stretched directly in the resonator of a laboratory epr spectrometer operating in the 3 cm band. The stabilizer suppressed the doublet of triplets observed in the epr spectrum of the unstabilized fibers, leaving only the singlet due to the inhibitor. The formation and accumulation of free radicals was observed under the influence of a constant load. In the case of unstabilized fibers the number of radicals reaches a maximum at large load (60--66 kg/mm^2) and begins to drop off, whereas no such drop is observed in stabilized fibers. Both the epr signal and the concentration of the radicals increase approximately exponentially with the load, while the rate of radical concentration increases linearly with the load. The results indicate that the use of the epr method yields important information on the mechanism of destruction and deformation of polymers. Orig. art. has: 4 figures.

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L 17690-65
ACCESSION NR: AP4049481

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 27Jul64 ENCL: 00

SUB CODE: OC, NP NR REF SOV: 013 OTHER: 003

Card 3/3

L 38535-65 EWG(j)/EWG(v)/EWP(j)/EWA(h)/EWT(m)/T/EWA(1) Pc-4/Pe-5/Pi-4/Peb RM/
RWH

ACCESSION NR: AP5005288 S/0181/65/007/002/0485/0488

43
41
B

AUTHOR: Tomashevskiy, E. Ye.; Pavlova, I. N.; Savostin, A. Ya. 15

TITLE: Effect of mechanical stresses on the kinetics of caprone photolysis

SOURCE: Fizika tverdogo tela, v. 7, no. 2, 1965, 485-488

TOPIC TAGS: caprone, photolysis, electron paramagnetic resonance, radical production, ultraviolet irradiation

ABSTRACT: The purpose of the investigation was to observe experimentally the influence of mechanical stresses on the kinetics of photodestruction. The work was performed by the electron paramagnetic resonance method, and polycaprolactame was used as the tested substance, since exposure to near ultraviolet gives rise to a predominant destruction of the main polymer chain. The samples were bundles of oriented caprone fibers containing no antioxidant. A comparative study was made of the intensities of epr signals from the free radicals produced following ultraviolet irradiation of loaded and unloaded caprone fibers. The spectra of the radicals were registered with a laboratory spectrometer with a reflecting cavity and high frequency modulation of the magnetic field, and also with a commercial instru-

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ment (RE-1301). The test techniques are briefly described. The results show that the mechanical stresses exert a strong influence on the photodestruction of oriented caprone. However, the kinetics of accumulation of microradicals is quite complicated at room temperature, since irradiation causes both production and recombination of radicals. Under atmospheric conditions, the radicals are destroyed after several tens of minutes. To prevent thermal recombination of the radicals, the tests were made also at liquid-nitrogen temperature, and it was observed that the number of produced photoradicals depends on the load, increasing somewhat with increasing deformation of the samples. More radicals were produced in samples deformed prior to cooling with nitrogen than in samples which were cooled first and then deformed. The rate of formation of radicals in stressed caprone exposed to ultraviolet decreases almost exponentially. A formula is derived for the rate of photodestruction of stressed polymer, but it is pointed out that further research is necessary to make the formula more precise. "The authors thank S. N. Zhurkov for continuous interest and valuable remarks." Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute, AN SSSR)

L 36400-66 EWT(1)/EWT(m)/EWP(j)/T IJP(c) WW/GG/RM

ACC NR: AP6022016 SOURCE CODE: UR/0120/66/000/003/0156/0157

AUTHOR: Tomashevskiy, E. Ye.; Yegorov, Ye. A.; Savostin, A. Ya.

ORG: Physico-Technical Institute AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Using magnetic-field pulse modulation for recording the original form of NMR and EPR spectra

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1966, 156-157

TOPIC TAGS: NMR, EPR, magnetic field pulse modulation

ABSTRACT: Modulation of magnetic field by high-amplitude pulses (exceeding the absorption range) is suggested for the purposes of recording original NMR and EPR spectra. The method results in a 100% modulation of the absorption signal and ensures, without line-shape distortion, a higher sensitivity as compared to the method of "small" sinusoidal modulation. The direct record of the original spectrum enhances accuracy in calculating absorption-line momenta. The method, first suggested by B. E. Holder et al. (Phys. Rev., 1955, 98, 1, 265), involves the signals modulated by trapezoid pulses having a repetition rate of a few dozen pulses per second and a duty factor of 0.5; simultaneously, a slow linear sweep of the magnetic field is performed. NMR spectra of polymethyl methacrylate and an EPR spectrum of DFPG are shown. The method is applicable to standard NMR wide-line spectrometers as well as to superheterodyne-type EPR spectrometers. Orig. art. has: 4 figures.

SUB CODE: 20, 09/ SUBM DATE: 29Apr65/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: [03]

UDC: 539.28.078

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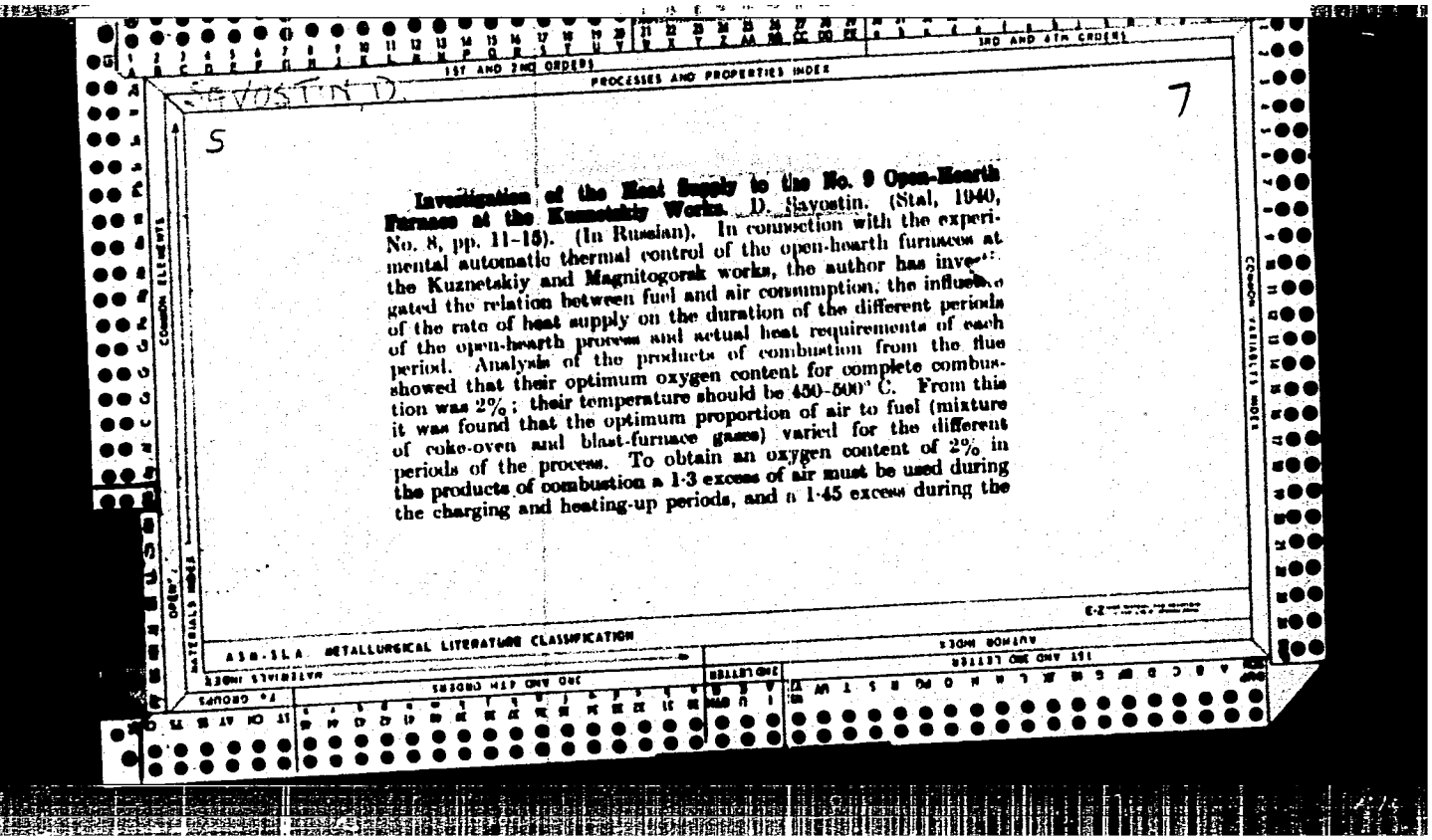


Investigation of the Heat Supply to the No. 9 Open-Hearth Furnace at the Kuznetskiy Works. D. Slavostin. (Stal, 1940, No. 8, pp. 11–15). (In Russian). In connection with the experimental automatic thermal control of the open-hearth furnaces at the Kuznetskiy and Magnitogorsk works, the author has investigated the relation between fuel and air consumption, the influence of the rate of heat supply on the duration of the different periods of the open-hearth process and actual heat requirements of each period. Analysis of the products of combustion from the flue showed that their optimum oxygen content for complete combustion was 2%; their temperature should be 450–500° C. From this it was found that the optimum proportion of air to fuel (mixture of coke-oven and blast-furnace gases) varied for the different periods of the process. To obtain an oxygen content of 2% in the products of combustion a 1·3 excess of air must be used during the charging and heating-up periods, and a 1·45 excess during the

melting and finishing periods. Working on th basis, a reduction of 16% in the heat consumption to 1084 cal. per kg. of steel was achieved. Nomograms for making the calculations are given. With the exception of chargi g, the duration o the periods of the process was found to be dependent on the rate of heat supply, and, in the case of the finishe g period, an optimum rate of 18.19 million cal. per hr. was definitely established. For the best results, the rate of charging should be related to the rate of heat supply at the time. In conclusion the optimum calorific value (proportions of coke-oven and blast-furnace gas) of the fuel in relation to the optimum rates of heat supply during the different periods of the process are considered.

SAVOSTIN,D., laureat Stalinskoy premii; PETROV,I.

One hundred and thirty thousand every 24 hours from one production line. Stroi.mat., izdel. i konstr. 1 no.8:27-29 Ag'55. (MLRA 8:11)

1. Nachal'nik osnovnogo tsekha Nizhnekotel'skogo zavoda (for Petrov)
(Brickmaking)

SAVOSTIN, D. G.; URODA, L. A.; VERENINOVA, N. K.

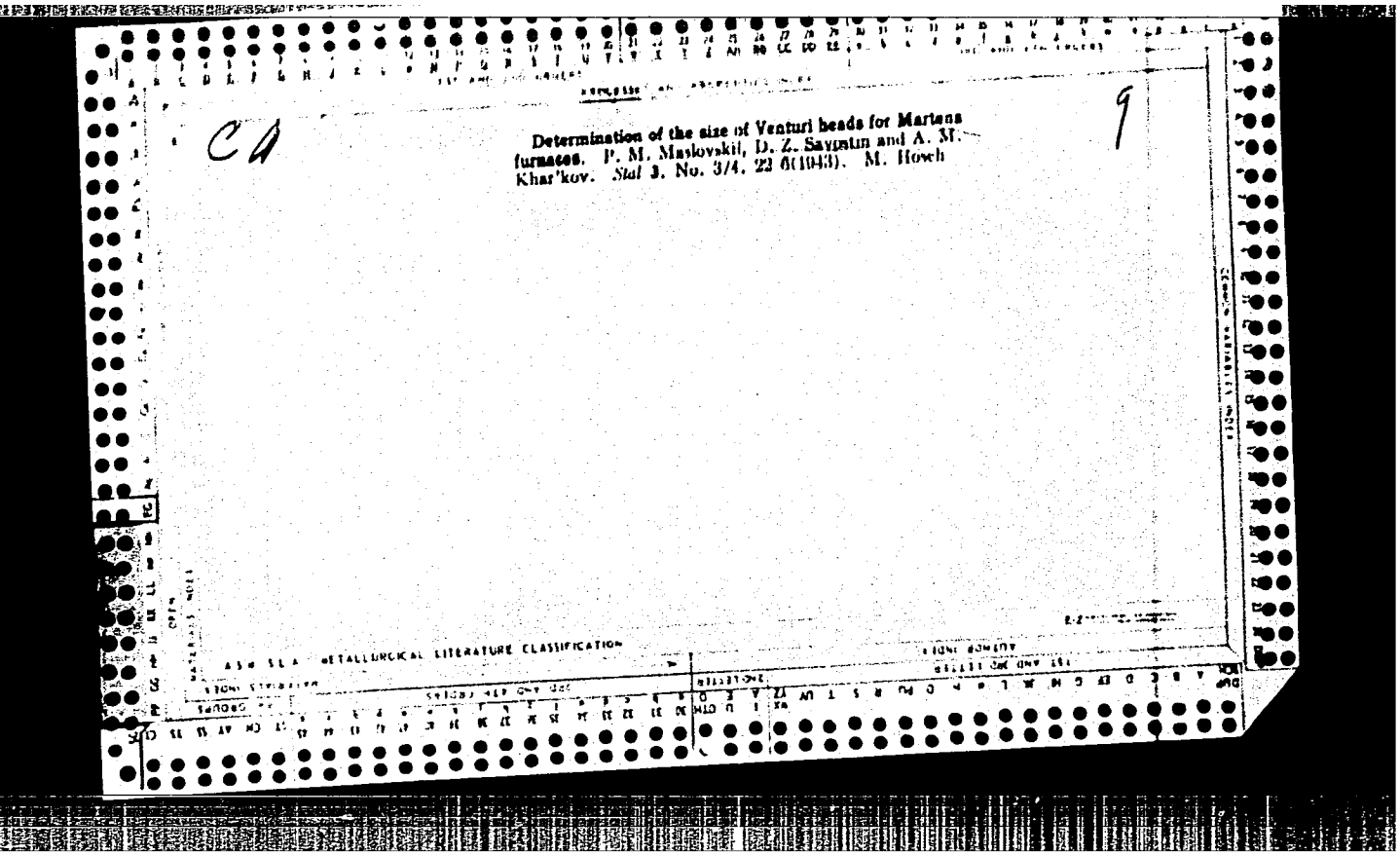
"The Therapeutic Effect of Streptomycin in Experimental Brucellosis Infections," Trudy Nauchnoissledovatel'skogo Instituta Mikrobiologii i Epidemiologii Yugo-Vostoka SSSR (Works of the Scientific Research Institute for Microbiology and Epidemiology of the Southeastern USSR), Saratov, Vol 1, 1951, pp 157-163.

SAVOSTIN, D.G., kand.med.nauk, otv.red.; FENYUK, B.K., prof., red.; FEDOROV, V.N., prof., red.

[Natural focus and epidemiology of especially dangerous infectious diseases] Prirodnaia ochagovost' i epidemiologiia osobo opasnykh infektsionnykh zabolevanii; sbornik rabot mezhinstitutskoi nauchnoi konferentsii. Red.kollegiia; D.G.Savostin, B.K.Feniuk, V.N.Fedorov. Saratov, Gos.nauchno-issledovatel'skii in-t mikrobiologii i epidemiologii Iugo-Vostoka SSSR M-va zdravookhraneniia SSSR, 1959. 595 p. (MIRA 13:7)

1. Mezhinstitutskaya nauchnaya konferentsiya po prirodnoy ochagovosti i epidemiologii osobo opasnykh infektsionnykh zabolevaniy. Saratov, 1957. 2. Gosudarstvennyy nauchno-issledovatel'skiy institut mikrobiologii i epidemiologii Yugo-Vostoka SSSR (g.Saratov) (for Fenyuk). 3. Gosudarstvennyy nauchno-issledovatel'skiy institut mikrobiologii i epidemiologii Yugo-Vostoka SSSR (g.Saratov); Sredne-Aziatskiy nauchno-issledovatel'skiy protivochumnyy institut (g.Alma-Ata); Turkmenskaya respublikanskaya protivochumnaya stantsiya (g.Ashkhabad) i Turkmenskiy institut zhivotnovodstva i veterinarii (g.Ashkhabad) (for Fedorov).

(COMMUNICABLE DISEASES)



CA

9

Determination of the size of Venturi heads for Martens furnaces. P. M. Maslovskii, D. Z. Savyatin and A. M. Khar'kov. *Stal* 3, No. 3/4, 23-6(1943). M. Hosch

A S M S L A METALLURGICAL LITERATURE CLASSIFICATION

SAVOSTIN, D.Z., inzhener; PINUS, Ya.S., inzhener.

Using coke gas cut-off and throttle stabilization. Stal' 7 no.3:206-208 '47. (MLRA 9:1)

1.Kuznetskiy metallurgicheskiy kombinat.
(Smelting furnaces)

CA

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Resistance of the individual lining components of an open-hearth furnace. D. Z. Savostin. *Stal* 8, 888-91 (1948).—The wear resistance, frequency of hot patching, and complete relining, life span, etc., of the bottoms, air and gas uptakes and ports, checkerwork, and arches, are discussed. M. Hosch

SAVOSTIN, D. Z.

USSR/Engineering Oct 48
Furnaces, Open-Hearth
Refractories

"Durability of Individual Brickwork Elements in Open-Hearth Furnaces," D. Z. Savostin, Engr, Kuznets Metal Combine, 4 pp

"Stal'" No 10

Increasing durability of individual elements of open-hearth brickwork is important for increasing output and saving refractory materials and fuel. Success of Kuznets plant is due to better repair work, automatization and careful

19/49T57

USSR/Engineering (Contd) Oct 48

regulation of heating furnace after cold repairs, and use of different refractories in some cases.

19/49T57

SAVOSTIN, D. Z.

"Performance of Open-Hearth Furnaces with Chrome Magnesite Lining." (Dissertation For Degree for Candidate of Technical Sciences) Min Ferrous Metallurgy USSR, Kuznetsk Order of Lenin, Order of Kutuzov First Class, and Order of Labor Red Banner Metallurgical Combine imeni I. V. Stalin, Stalinsk, 1954

SO: M-1036 20 Mar 56

SAVOSTIN, D.Z., inzhener.

Using composite crowns in open-hearth furnaces. Stal.proizv. no.1: 89-93 '56. (MLRA 9:9)

1.Kuznetskiy metallurgicheskiy kombinat imeni Stalina.
(Open-hearth furnaces)

SAVOSTIN, D. Z.

Air injection into gas uptakes of open-hearth furnaces. L. S. Klimasenko, M. Ya. Medzhibozhskii, E. I. Korochkin, N. I. Bovin, and D. Z. Savostin (Met. Combine, Kuznetsk). *Stal'* 16, No. 5, 462-5(1956).—A study of the effect of injecting compressed air into gas uptakes of 380-ton open hearth furnaces showed a shortening of heat time by 30-40 min. and lead to cooler tops of checkers.
I. D. Gat

Metal

5

18(5) PHASE I BOOK EXPLOITATION SOV/1675

Savostin, Dmitriy Zakharovich, Candidate of Technical Sciences

Rabota martenovskikh pechey s khromomagnezitovymi svodami (Operation of Open-hearth Furnaces With Chrome-Magnesite Roofs) Sverdlovsk, Metallurgizdat, 1958. 264 p. 2,700 copies printed.

Ed.: Aleksandr Vladimirovich Kavaderov; Ed. of Publishing House: V.P. Kel'nik; Tech. Ed.: Ye. M. Zef.

PURPOSE: This book is intended for engineering personnel engaged in open-hearth steel production. It may also be used by students of metallurgical vuzes.

COVERAGE: This book treats briefly the properties of Dinas and chrome-magnesite refractory bricks, describes various constructions of chrome-magnesite roofs, and discusses special thermal and engineering features in the operation of open-hearth furnaces with basic roofs. Data is presented on

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roof life and the increase of productivity and decrease in consumption of refractories per ton of steel in furnaces with chrome-magnesite roofs. Academicians A.A. Baykov, P.P. Budnikov, D.S. Belyankin, N.N. Smirnov, and Professors A.S. Frenkel', G.V. Kukolev, I.S. Kaynarskiy, and I.S. Smelyanskiy are mentioned as contributors to the field of refractories. There are 102 references, of which 92 are Soviet, 8 English, 1 German, and 1 French.

TABLE OF CONTENTS:

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Operation of mechanized gas generators with stirring bars.
Gaz. prom. no.8:13-17 Ag '58. (MIRA 11:8)
(Gas producers)

SAVOSTIN, Dmitriy Zakharovich; TRUBETSKOV, K.M., red.; VENETSKIY, S.I., red. izd-va; KARASEV, A.I., tekhn. red.

[Open-hearth steelmaking process; practices of the Kuznets Metallurgical Combine] Martenovskoe proizvodstvo stali; opyt raboty KMK. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 288 p. (MIRA 14:10)
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SAVOSTIN, G.A.

Rare case of expertise on a gunshot wound. Sud.-med. ekspert. 7 no. 2:44-45 Ap-Je '64. (MIRA 17:7)

1. Moskovskoye gorodskoye byuro sudebnomeditsinskoy ekspertizy (nachal'nik L.S.Velisheva).

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(Mechanical drawing)